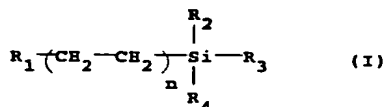


J07179718
KAO CORP

Pr. 93JP-324320 du 931222

Silyl terminated polyethylene wax - useful in cosmetics or as starting materials for pharmaceuticals

Silyl-terminated polyethylene wax of formula (I) is new.



R_1 = 1-6C said. hydrocarbyl;
 R_2, R_3, R_4 = 1-18C alicyclic hydrocarbyl or aromatic hydrocarbyl; and
 n = 10-300.

USE

(I) are useful as components of oil solids (V) used as cosmetic materials (claimed), and starting materials for drugs and crayons.

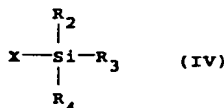
ADVANTAGE

(I) are prepd. by a simple procedure in high yields. (I) gives oily solids having suitable hardness and homogeneous composition.

PREPARATION

(I) are prepd. by:

- (1) polymerisation of ethylene (II) using a polymerisation initiator (III) comprising 1-6C alkyl lithium (IIIA) and tert-diamine(s) (IIIB), and
- (2) reaction of the terminal gp. of the above product with the silicon cpd. of formula (IV).



X = halogen or alkoxy.

Réf. 95-281077 [37]

PREFERRED PROCESS

Ethylene is pref. polymerised in a hydrocarbon in the presence of (IIIA) and 0.1-10 equivs. of (IIIB) at 0-100 (pref. 20-80) °C opt. under pressure until the degree of polymerisation is 10-300 (pref. 10-50) to give the polymer. The polymer is reacted with 1-1.2 equivs. of (IV) at 0-100 (pref. 20-80) °C to give (I).

A mixture of 0.1-95 (pref. 1-30) wt. % (I) and liquid oil (pref. 50-99 wt. %) and/or solid oil (0-50 wt. %) is heated and the molten mixture is cooled to obtain (V).

EXAMPLE

(IIa) was prepared from n-butyl lithium (1.6 mol/l n-hexane solution, 12.5 ml) and tetramethylethylenediamine (3 ml) in cyclohexane (400 ml) in an autoclave. Ethylene gas (2 kg/cm²) was fed to the autoclave for 30 min, and excess ethylene was purged.

Trimethylchlorosilane (2.8 ml)/cyclohexane (10 ml) solution was added dropwise and the reaction of the polymer with trimethylchlorosilane was carried out at 30 °C for 30 min. The reaction mixt. was worked up to give (I) (Mn 670, 12.0g).

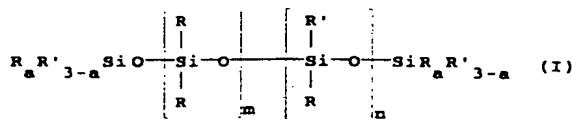
J07179819

SHINETSU CHEM IND CO LTD

Pr. 93JP-304860 du 931110

Compsn. for forming film on hair, metal, plastic, etc. - comprises soln. of amine modified high mol. wt. polysiloxane in solvent giving soft, smooth film with water repellency, water resistance, etc.

A film forming compsn. (P1) comprises a soln. of an amine modified high mol. wt. polysiloxane (A) of formula (I) in a solvent (B).



R = a 1-6C monovalent hydrocarbon gp., hydroxyl gp., or hydrogen atom;

R' = an amino gp. contg. an organic gp.;

a = 0-3;

m > 1;

n > 5; and

m+n > 2,000.

Also claimed a film (P2) obtd. by coating (P1) on a substrate and drying it.

USE

(P1) is suitable for forming (P2) on surfaces of human skin or hair, metals, plastics, artificial leather, and natural or synthetic fibres.

ADVANTAGE

(P2) is soft and smooth and has good water repellency, water resistance, durability and touch feeling.

EMBODIMENT

(B) is a volatile organopolysiloxane, having a b. pt. of 95-250 °C such as octamethylcyclotetrasiloxane and hexamethyldisiloxane, and light liquid isoparaffins, pref. having a b. pt. of 50-250 °C.

A suitable concn. of (A) in (P1) is 0.1-70 (1-30) wt. %. (P1) may be either dried at room temp. or force dried at 60-150 °C.